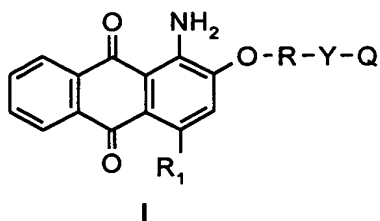


We claim:

1. An anthraquinone colorant having the structure in Formula I:



wherein:

R is a divalent linking group selected from the group consisting of -C₂-C₈-alkylene-, -(C₂-C₄-alkylene-Z)_n-C₂-C₄-alkylene-, -C₂-C₆-alkylene-O-arylene-O-C₂-C₆-alkylene-, -arylene-O-C₁-C₆-alkylene-, -CH₂-1,4-cyclohexylene-CH₂- and -arylene-C₁-C₆-alkylene-;

Z is -O-, -S-, -N(SO₂R₄)-, -N(R₃)CO- or -N(COR₅)-;

R₁ is hydroxy, -NHSO₂R₂ or NHCOR₂;

R₂ is C₁-C₆-alkyl, C₃-C₈-cycloalkyl or aryl;

Y is -O- or -N(R₃)-;

R₃ is hydrogen, C₁-C₆-alkyl, C₃-C₈-cycloalkyl or aryl;

R₄ is C₁-C₆-alkyl, C₃-C₈-cycloalkyl or aryl;

R₅ is C₁-C₆-alkyl, C₁-C₆-alkoxy, C₃-C₈-cycloalkyl or aryl;

n is an integer from 1 to 3; and

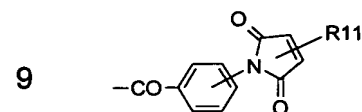
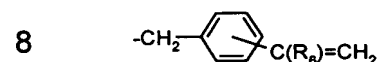
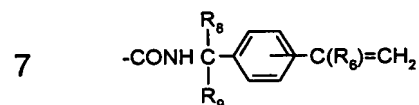
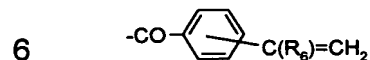
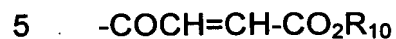
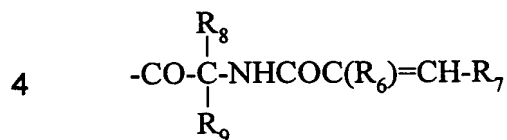
Q is an ethylenically unsaturated, photopolymerizable or free radical initiated polymerizable group.

2. A colorant according to claim 1 wherein Q is

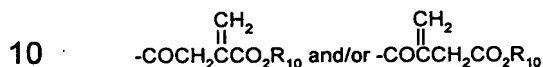
1 -COC(R₆)=CH-R₇

2 -CONH-COC(R₆)=CH-R₇

3 -CONH-C₁-C₆-alkylene-OCOC(R₆)-CH=CH-R₇



or



wherein:

R_6 is hydrogen or $\text{C}_1\text{-C}_6\text{-alkyl}$;

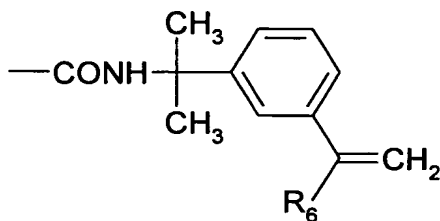
5 R_7 is hydrogen; $\text{C}_1\text{-C}_6\text{-alkyl}$; phenyl; phenyl substituted with one or more groups selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy}$, $-\text{N}(\text{C}_1\text{-C}_6\text{-alkyl})$, nitro, cyano, $\text{C}_1\text{-C}_6\text{-alkoxycarbonyl}$, $\text{C}_1\text{-C}_6\text{-alkanoyloxy}$ and halogen; 1- or 2-naphthyl; 1- or 2-naphthyl substituted with $\text{C}_1\text{-C}_6\text{-alkyl}$ or $\text{C}_1\text{-C}_6\text{-alkoxy}$; 2- or 3-thienyl; 2- or 3-thienyl substituted with $\text{C}_1\text{-C}_6\text{-alkyl}$ or halogen; 2- or 3-furyl; or 2- or 3-furyl substituted with $\text{C}_1\text{-C}_6\text{-alkyl}$;

10 R_8 and R_9 are, independently, hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, or aryl; or R_8 and R_9 may be combined to represent a $-\text{[CH}_2\text{]}_{3-5}-$ radical;

R_{10} is hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_8\text{-alkenyl}$, $\text{C}_3\text{-C}_8\text{-cycloalkyl}$ or aryl; and

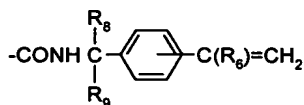
R₁₁ is hydrogen, C₁-C₆-alkyl or aryl.

3. A colorant according to claim 1 wherein Q is -COC(R₆)=CH₂ or



- 5 and wherein R₆ is hydrogen or methyl.

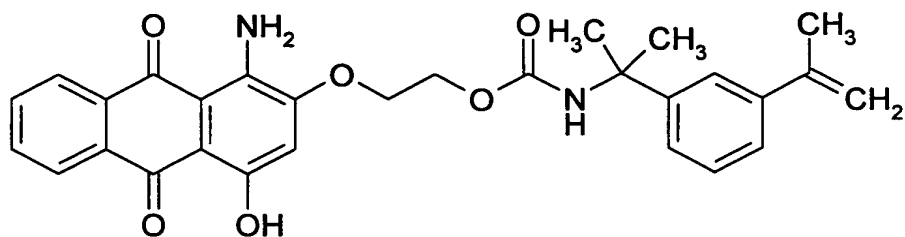
4. A colorant according to claim 1 wherein R is -C₂-C₆-alkylene-, -C₂-C₄-alkylene-O-arylene-O-C₂-C₄-alkylene-, -(C₂H₄O)_n-C₂H₄- or -CH₂-1,4-cyclohexylene-CH₂-; n is an integer selected from 1 to 3; R₁ is hydroxy or -NHSO₂R₂; Y is oxygen; and Q is



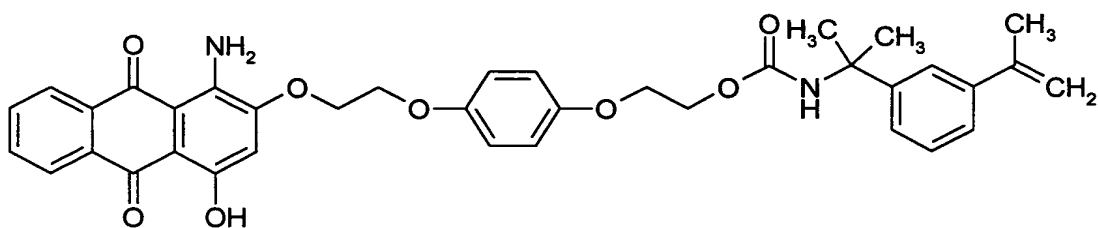
- 15 wherein R₆ is hydrogen or methyl and R₈ and R₉ are methyl.

5. A colorant according to claim 1 wherein R is -C₂-C₆-alkylene-, -C₂-C₄-alkylene-O-arylene-O-C₂-C₄-alkylene-, -(C₂H₄O)_n-C₂H₄- or -CH₂-1,4-cyclohexylene-CH₂-; n is an integer from 1 to 3; R₁ is hydroxy or -NHSO₂R₂; Y is oxygen; and Q is -COC(R₆)=CH-R₇ wherein R₆ is hydrogen or methyl and R₇ is hydrogen.

6. A colorant according to claim 1 having the structure

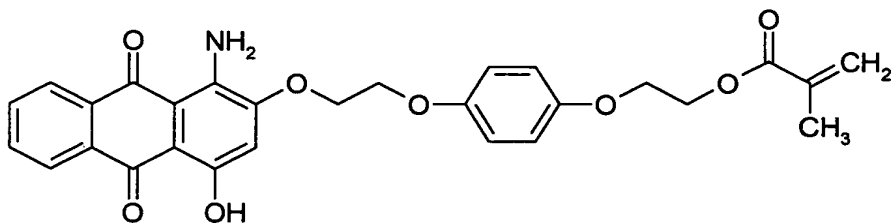


7. A colorant according to claim 1 having the structure



5

8. A colorant according to claim 1 having the structure



- 10 9. A coating composition comprising (i) one or more polymerizable vinyl compounds, (ii) one or more of the colorant compounds according to Claim 1, and (iii) at least one photoinitiator.
- 15 10. A coating composition according to Claim 9 comprising (i) one or more polymerizable vinyl compounds, (ii) one or more of the colorant compounds present in a concentration of about 0.5 to 25 wt % based on the weight of component (i), and (iii) a photoinitiator present in a concentration of about 1 to 15 wt% based on the weight of the polymerizable vinyl compound(s) present in the coating composition.

11. A coating composition according to claim 10 which further comprises one or more organic solvents.

5 12. A coating composition according to claim 10 wherein the composition is dispersed in water.

13. A composition according to claim 12 which further comprises a co-solvent.

10

14. A coating composition according to Claim 10 wherein the polymerizable vinyl compounds comprise a solution of a polymeric, polymerizable vinyl compound selected from acrylated or methacrylated polyesters, acrylated or methacrylated polyethers, acrylated or
15 methacrylated epoxy polymers, acrylated or methacrylated urethanes, or mixtures thereof, in a diluent selected from monomeric acrylate or methacrylate esters.

15. A colorant concentrate comprising a solvent and a colorant
20 according to Claim 1 at a concentration of about 0.5 to about 40 wt%.

16. A colorant concentrate according to claim 15 wherein the solvent is toluene, methylethyl ketone, acetone, hexanediol diacrylate, tri(propyleneglycol) diacrylate or a mixture thereof and the colorant is
25 present at a concentration of about 10 to about 30 wt%.

17. A colorant concentrate according to claim 16 further comprising one or more ultraviolet light absorbing compounds at a concentration of from about 0.1 to about 30 wt %.

30

18. A colorant concentrate according to claim 16 further comprising one or more antioxidants at a concentration of about 0.01 to about 5 wt %.